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EXHIBIT Y

TESTIMONY OF JEROME C. WEINERT

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**BEFORE THE  
PENNSYLVANIA PUBLIC UTILITY COMMISSION**

**AQUA PENNSYLVANIA WASTEWATER, INC.**

**DOCKET NO. A-2021-3027268**

**AQUA STATEMENT NO. 5**

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**DIRECT TESTIMONY OF  
JEROME C. WEINERT, PE, ASA, CDP  
UTILITY VALUATION EXPERT  
SELECTED BY  
WILLISTOWN TOWNSHIP, PENNSYLVANIA**

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Date: August 2021

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1   **Q.     Please state your name, business address, and occupation.**

2   **A.**     My name is Jerome C. Weinert. My business address is 8555 West Forest Home Avenue,  
3             Suite 201, Greenfield, WI 53228. I am a Principal and Director of AUS Consultants, Inc.  
4             ("AUS Consultants"). This testimony was prepared by me.

5  
6   **Q.     Please describe your qualifications and indicate if you are registered as a Utility**  
7             **Valuation Expert with the Pennsylvania Public Utility Commission.**

8   **A.**     My curriculum vitae ("CV") is attached to my report and this testimony. AUS Consultants  
9             is a registered Utility Valuation Expert with the Pennsylvania Public Utility Commission  
10            ("PUC"). We obtained that registration in 2016 and were informed of our latest renewal  
11            by the PUC's Secretary on January 12, 2021.

12  
13  **Q.     What is the purpose of your testimony?**

14  **A.**     This direct testimony provides clarification and explanation of the appraisal I provided to  
15             Willistown Township, Pennsylvania, the Selling Utility pursuant to 66 Pa. C.S. §  
16             1329(a)(5) and in accordance with the Uniform Standards of Professional Appraisal  
17             Practice ("USPAP") (2020-2021 Edition).

18  
19  **Q.     Are you advocating for any party or outcome?**

20  **A.**     No. The Ethics Rule of the USPAP, applicable here pursuant to 66 Pa. C.S. § 1329(a)(3),  
21             requires that I perform the appraisal with impartiality, objectivity, and independence, and  
22             without accommodation of personal interests. In addition, the USPAP Ethics Rule requires  
23             that I not perform the assignment with bias, that I must not advocate the cause or interest

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1 of any party or issue and that I must not accept an assignment that includes the reporting  
2 of predetermined opinions and conclusions.

3  
4 **Q. Do you have any affiliation with either the Acquiring Utility or the Selling Utility or**  
5 **Entity?**

6 **A.** No. Other than the current assignment to provide the subject appraisal, I have no business  
7 or personal relationships with any party to the proposed acquisition.

8  
9 **Q. What is your fee arrangement to deliver the appraisal?**

10 **A.** A copy of the fee arrangement is included with the Application as **Exhibit S2**. In summary,  
11 AUS Consultants are to receive \$25,000 to \$27,000 plus expenses in compensation for our  
12 appraisal, which represents approximately 0.11% to 0.12% of the appraised value.

13  
14 **Q. Will you receive that fee regardless of whether the Commission approves the**  
15 **proposed transaction or whether it closes?**

16 **A.** Yes. 66 Pa. C.S. § 1329(a)(3) mandates that I comply with the USPAP when developing  
17 my appraisal. Under the USPAP, I cannot perform the appraisal with bias and acceptance  
18 of a fee contingent on a particular outcome like closing or Commission approval would  
19 violate that Ethics Rule.

20  
21 **Q. Have you prepared any exhibits, schedules, or appendices to accompany your direct**  
22 **testimony?**

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1    **A.**    Yes. The appraisal I submitted to the Seller pursuant to Section 1329(a)(5) is included in  
2            the Application as **Exhibit R**. The appraisal includes a narrative and supporting exhibits  
3            in sections. All were prepared under my supervision and control. Also, as stated above,  
4            attached to this testimony as **Appendix A** is my CV.

6    **Q.**    Please summarize your results of the application of the cost, market, and income  
7            approaches to valuation.

8    **A.**    The summary results of the cost, income, and market approaches are presented below.

Appraisal Approach	Value Indicator	Weight	Wtd Value Indicator
Cost	18,498,555	50%	9,249,278
Income	18,235,751	40%	7,294,300
Market	25,695,620	10%	2,569,562
Appraisal Conclusion			19,113,140

11   **Q.**    Please describe any assumptions, extraordinary assumptions, hypothetical  
12            conditions, and/or limiting conditions that you applied to the valuation.

13   **A.**    The major assumptions and limiting conditions used in preparing our appraisal of the  
14            Willistown Wastewater Collection and Treatment System are described in our appraisal  
15            report “Fair Market Appraisal Report of Willistown Township, Pennsylvania’s (PA)  
16            Wastewater Collection and Treatment System, as of January 20, 2021.” Beyond the above-  
17            described assumptions, there are no extraordinary<sup>1</sup> or hypothetical<sup>2</sup> assumptions (as  
18            defined in the 2020-2021 edition of USPAP).

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<sup>1</sup> Extraordinary assumption: an assignment-specific assumption as of the effective date regarding uncertain information used in an analysis which, if found to be false, could alter the appraiser’s opinions or conclusions. 2020-2021 USPAP page 4.

<sup>2</sup> Hypothetical condition: a condition, directly related to a specific assignment, which is contrary to what is known by the appraiser to exist on the effective date of the assignment results, but used for the purpose of analysis. 2020-2021 USPAP page 4.

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**Q. How was each assumption used and what was its result?**

**A.** The assumptions are detailed in my appraisal report and are discussed further in this testimony.

**Q. How did you develop the weighting applied to each approach in your appraisal and why are the individual weights you chose appropriate for this proposed transaction?**

**A.** For the cost approach I chose a weighting of 50%. It is my opinion that this weighting is appropriate for the cost approach because the major purpose of this appraisal is to be an input to the Commission’s establishment of cost for future ratemaking and the cost approach conclusion is directly reflective of the property cost.

For the market approach, I chose a weighting of 10%. It is my opinion that this weighting is appropriate for the market approach because while the market approach provides some information as to the value of the property, establishing comparability between the individual sales to the subject property is difficult and uncertain therefore requiring less weight of the market approach and the 10% weight accomplishes that objective.

For the income approach, I chose a weighting of 40%. It is my opinion that this weighting is appropriate for the income approach because the income approach reflects the value of the property’s return to the property’s owner. The 40% weight accomplishes that objective.

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**Q. Did you conduct an on-site inspection of the Selling Utility assets, and if so, what was its result on the appraisal?**

**A.** No. AUS Consultants relied on the aging of the investment provided in the Engineer's Assessment to assess the condition of the system.

**Q. What Utility Earnings Report was used to create the capital structure used in your appraisal?**

**A.** I used a market required capital structure (detailed in the Cost of Capital / Required Return portion of our appraisal report). Information used in developing the market capital structure was obtained from financial statistics reported in Value Line Investment Survey for the water / wastewater industry published in their January 8, 2021, issue.

**Q. What capital structure was used in your appraisal?**

**A.** The capital structure used in my appraisal is included below.

<b>Water and Wastewater Cost of Capital</b>							
<b>First Quarter 2021 (0-01-2021)</b>							
<b>As an Investor-Owned Utility</b>							
<b>Weighted Cost of Capital (Discount Rate)</b>							
(1)	(2)	(2a)	(3)	(3a)	(4)	(4a)	(5)
	Portion of Capital	Type of Data	Capital Cost	Type of Data	Tax Rate	Tax affect on cost of capital	After-tax Market Capital Cost
	AUS Input		AUS Input				(2)*(3)*(4a)
Debt	29%	Market	2.79%	Market	28.89%	71.11%	0.58%
Equity	71%	Market	9.85%	Market	0.0%	100.0%	6.99%
<b>Total Capital r</b>	<b>100.0%</b>						<b>7.57%</b>
Growth (g)							<b>1.82%</b>
Rate without Growth: $[(1+r)/(1+g)]-1$							<b>5.65%</b>

**Cost Approach**

**Q. Regarding your application of the cost approach, what method did you use to determine the cost approach result (e.g. original cost, replacement cost, reproduction cost)?**

**A.** I used the replacement cost method.

**Q. Please explain why you chose the replacement cost method.**

**A.** I chose the replacement cost method because it is considered the proper starting point for a cost approach. Replacement cost reflects the appraisal date cost of providing the property's functionality and capacity at the appraisal date using recognized materials and labor costs.

**Q. What index did you use for that method?**

**A.** I used the Handy Whitman Index of Public Utility Construction Costs for the Water Industry (Northeastern US Region), AUS Telephone Index (General Plant), and various United States Bureau of Labor Statistics cost index series.

**Q. Under your application of the cost approach what assets did you value or trend differently from other assets and why was that necessary?**

**A.** I costed each property account with cost trends appropriate for the property contained in the account. As such, the costing of each property account may differ from account to account. It is my opinion that an accurate appraisal requires each property account be costed with cost trends reflective of the property contained in the account. For the assets



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associated with Land and Land Rights, appraisal date costs were estimated. For the appraisal date cost of obtaining and registering the easement with the Register of Deeds, estimates were developed based on the time and cost associated with developing the easement, contacting the property owner and registering the easement.

Willistown Township's property, as detailed in the Pennoni Associates, Inc. "Engineer's Assessment" of \$19,641,519.75, was determined to have a replacement cost new of \$49,898,907 summarized as follows:

<b>Willistown Wastewater Collection System</b> <b>Wastewater Collection System and Treatment</b> <b>Investor-Owned Utility</b> <b>As of January 20, 2021</b>								
<b>Replacement Cost New (RCN)</b>								
(1)	(2)	(3)	(9)	(10)	(13)	(14)	(15)	(16)
Account	Account	Asset Description	Original Cost	Costing Parameter	Cost Translator	Reproduction Cost New (RCN)	Reproduction Cost New (RCN) to Replacement Cost New (COR)	Replacement Cost New (COR)
			OC \$\$			RCN \$\$	COR \$\$ / RCN \$\$	COR \$\$
Input	Input	Input	Input	Input	Calculation	Calculation	Input	Calculation
Eng Assmnt	AUS Input	Willistown Township Wastewater Assets Detail by Pennoni Associates, Inc.	Eng Assmnt	AUS Input			AUS Input	Col (14) * (15)
NARUC Code	NARUC Code	Asset Description	Original Cost	Cost Index Table	Translator	RCN	COR / RCN Factor	COR
353.20	353.20	Land & Land Rights - Collection System	216.00	USBLS1	1.61	347	644.89	223,776
353.30	353.30	Land & Land Rights - Pumping	21,606.00	USBLS1	4.85	104,817	1.05	109,988
353.40	353.40	Land & Land Rights - Treatment	1,500,007.00	USBLS1	1.30	1,945,510	1.00	1,945,510
354.30	354.30	Stuctures & Improvements - Pumping	2,146,252.31	HWW-18	2.36	5,065,392	1.00	5,065,392
354.40	354.40	Stuctures & Improvements - Treatment	1,448,500.00	HWW-115	2.26	3,275,059	1.00	3,275,059
355.30	355.30	Generating Equipment - Pumping	344,586.01	USBLS4	1.17	401,787	1.00	401,787
360.21	360.21	Collection Sewers - Force - Mains	6,823,585.73	HWW-144	2.18	14,857,717	1.00	14,857,717
361.21	361.21	Collection Sewers - Gravity - Mains	3,807,421.45	HWW-144	3.97	15,110,171	1.00	15,110,171
361.22	361.22	Collection Sewers - Gravity - Mains Relining	956,037.32	HWW-138	1.15	1,096,644	1.00	1,096,644
361.23	361.23	Collection Sewers - Gravity - Manholes	1,562,320.53	HWW-145	3.19	4,989,198	1.00	4,989,198
363.20	363.20	Service Laterals	698,453.71	HWW-139	3.43	2,394,359	1.00	2,394,359
		Grand Total	19,641,519.75		2.53	49,670,307	1.01	49,898,907

These results are detailed in Application **Exhibit R** (AUS Appraisal) under the Cost Approach section.

DIRECT TESTIMONY OF JEROME C. WEINERT

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**Q. Under your application of the cost approach, what date did you use for calculating the depreciation or condition of the property?**

**A.** I used the date of January 20, 2021.

**Q. How did you determine the depreciation parameters of survival/retirement characteristics and service lives for the utility property under the cost approach?**

**A.** I determined those parameters based on our review of the depreciation studies filed by Pennsylvania-American Water Company (“PAWC”) and Aqua Pennsylvania Wastewater, Inc. (“Aqua”) in support of their depreciation parameters (Iowa-type Survival Characteristics and Service Lives) and the resultant depreciation expense and rate base (net book) in their recent General Rate Cases (R-2017-2595853, R-2020-3019371 and R-2018-3003561) and AUS Consultants’ experience in preparing depreciation studies for the water and wastewater industry and our experience appraising water and wastewater properties. The following table summarizes those studies and AUS Consultants’ review of the depreciation parameters:

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**Summary of PAWC & Aqua Depreciation Studies Prepared for Rate Case**

Account	Account Description	Iowa Curves			Service Life		
		PAWC	PAWC	Aqua	PAWC	PAWC	Aqua
		12/31/2016	12/31/2019	3/31/2018	12/31/2016	12/31/2019	3/31/2018
					years	years	
354.20	STRUCTURES AND IMPROVEMENTS - COLLECTION	R3	R3	S0.5	45	45	55
354.30	STRUCTURES AND IMPROVEMENTS - SPP	R2.5	S0	S1.0	50	55	60
354.40	STRUCTURES AND IMPROVEMENTS - TDP	R2	S0	R2.0	65	55	50
354.70	STRUCTURES AND IMPROVEMENTS - GENERAL	S1	S1	R3.0	35	35	50
355.00	POWER GENERATION EQUIPMENT	R2.5	S0.5		35	35	
360.10	COLLECTION SEWERS - FORCE MAINS	S2	R3	R2.5	70	75	75
361.10	COLLECTION SEWERS - GRAVITY MAINS	R2.5	R2.5	R2.5	70	80	75
361.20	MANHOLES	S1.5	S2.5		50	50	
363.00	SERVICES	R3	R3	R4.0	38	47	70
364.00	FLOW MEASURING DEVICES	L3	L2.5		20	15	
365.00	FLOW MEASURING INSTALLATIONS	S1.5	S2		30	25	
370.00	RECEIVING WELLS	R3	R3		50	50	
371.00	PUMPING EQUIPMENT	S0	S0.5	L0.5	40	30	25
380.00	TREATMENT EQUIPMENT	5-R2	S1.5	S0.0	45	35	40
381.00	PLANT SEWERS	R3	R3	R1.5	50	50	40
382.00	OUTFALL SEWER LINES	R3	R3	R2.5	50	50	40
389.10	OTHER PLANT AND MISCELLANEOUS EQUIPMENT - INTANGIBLES	S2.5	S2.5		20	20	
389.60	OTHER PLANT AND MISCELLANEOUS EQUIPMENT - CPS	SQ	SQ	L3.0	20	5	20
390.00	OFFICE FURNITURE AND EQUIPMENT	L4	SQ	SQ	15	20	20
391.00	TRANSPORTATION EQUIPMENT	SQ	L4		25	14	
392.00	STORES EQUIPMENT	SQ	SQ		20	25	
393.00	TOOLS, SHOP AND GARAGE EQUIPMENT	SQ	SQ	SQ	15	20	20
394.00	LABORATORY EQUIPMENT	L2.5	SQ	SQ	16	15	25
395.00	POWER OPERATED EQUIPMENT	SQ	R2		15	22	
396.00	COMMUNICATION EQUIPMENT	SQ	SQ		15	15	
397.00	MISCELLANEOUS EQUIPMENT		SQ			15	
398.00	OTHER TANGIBLE PLANT		SQ			25	
	TOTAL DEPRECIABLE PLANT						

**Q. Why are those parameters appropriate?**

**A.** Those parameters are appropriate because the parameters reflect the actual service life experienced by PAWC and Aqua both major wastewater utilities serving wastewater customers in the Commonwealth of Pennsylvania and which were adjudicated by the PUC in PAWC's 2017 General Rate Case, PAWC's 2020 General Rate Case (Docket Nos. R-2020-3019369 and R-2020-30193371, respectively), and Aqua's 2018 General Rate Case (Docket No. R-2018-3003561). The parameters in the following table also reflect AUS Consultants' experience of the survival / retirement characteristics of normal and functional service lives of wastewater properties:

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**Willistown Township, Pennsylvania  
Willistown Wastewater Collection System  
Wastewater Collection System and Treatment  
Investor-Owned Utility  
January 20, 2021**

Summary of Account Costing and Depreciation Parameters Used in the Depreciation Original Cost and the Depreciated Replacement Cost New Studies

(1)	(2)	(4)	(5)	(6)	
		(4a)	(4b)	(6a)	(6b)
		Iowa			
Account		Survivor /	Normal	Economic	Tax
Number	Description	Retirement	Service	Obsolescence	Depreciation
		Curve	Life		
			years	% of CORLD	Table
					Life
353.20	Land & Land Rights - Collection System	ZNonDep	0.00	38.57% Non-Depr	0.00
353.30	Land & Land Rights - Pumping	ZNonDep	0.00	38.57% Non-Depr	0.00
353.40	Land & Land Rights - Treatment	ZNonDep	0.00	38.57% Non-Depr	0.00
354.30	Stuctures & Improvements - Pumping	R4.0	55.00	38.57% MACRS	25.00
354.40	Stuctures & Improvements - Treatment	R4.0	55.00	38.57% MACRS	25.00
355.30	Generating Equipment - Pumping	R3.0	35.00	38.57% MACRS	25.00
360.21	Collection Sewers - Force - Mains	R3.0	75.00	38.57% MACRS	25.00
361.21	Collection Sewers - Gravity - Mains	R2.5	80.00	38.57% MACRS	25.00
361.22	Collection Sewers - Gravity - Mains Relining	R2.5	60.00	38.57% MACRS	25.00
361.23	Collection Sewers - Gravity - Manholes	R2.5	80.00	38.57% MACRS	25.00
363.20	Service Laterals	R3.0	70.00	38.57% MACRS	25.00
364.30	Flow Measuring Devices - Pumping	S2.0	25.00	38.57% MACRS	25.00
390.70	Office Furniture and Equipment	R3.0	15.00	38.57% MACRS	15.00

Also, due to the age of Willistown Township's early property installations, the maximum depreciation was limited to 85% of the cost new.

**Q. What was the result of the application of the depreciation parameters to the previously described replacement cost new of \$49,898,907?**

**A.** With the application of the above-described depreciation parameters, the replacement cost new of \$49,898,907 results in a replacement cost new less depreciation of \$30,113,231 determined as follows:

# DIRECT TESTIMONY OF JEROME C. WEINERT

Willistown Township, Pennsylvania

Willistown Wastewater Collection System

Wastewater Collection System and Treatment

Investor-Owned Utility

As of January 20, 2021

## Replacement Cost New less Depreciation (RCNLD)

(18)	(19)	(21)	(22)	(23)	(24)	(28)	(29)	(30)	(31)
Account	Description	Age at January 20, 2021 Appraisal Date	Replacement Cost New (COR)	Retirement Dispersion lowa-type	Normal Service Life (NSL)	Normal Remaining Life	Total Life Expectancy	Condition	Preliminary Cost Approach (COR less Normal Depreciation)
		years	COR \$\$		years	years	years	% of COR	CORLD \$\$
Input	Input	Calculation	Calculation	Input	Input	Calculation	Calculation	Calculation	Calculation
Eng Assmnt	Willistown Township Wastewater Assets Detail by Pennoni Associates, Inc.		Col (16)	AUS Input	AUS Input		Col (21) + (28)	Col (28) / (29)	Col (22) * (30)
Account	Description	Age	RCN	lowa	NL	Rem Life	Total Life	Condition	CORLD
353.20	Land & Land Rights - Collection System	22.85	223,776	ZNonDep	-	-	-	-	223,776
353.30	Land & Land Rights - Pumping	44.30	109,988	ZNonDep	-	-	-	-	109,988
353.40	Land & Land Rights - Treatment	14.50	1,945,510	ZNonDep	-	-	-	-	1,945,510
354.30	Stuctures & Improvements - Pumping	27.73	5,065,392	R4.0	45.00	20.06	47.78	45.00	2,218,402
354.40	Stuctures & Improvements - Treatment	22.50	3,275,059	R4.0	55.00	32.77	55.27	55.00	1,941,807
355.30	Generating Equipment - Pumping	10.50	401,787	R3.0	35.00	24.95	35.45	35.00	282,781
360.21	Collection Sewers - Force - Mains	24.37	14,857,717	R3.0	75.00	52.04	76.41	75.00	10,144,396
361.21	Collection Sewers - Gravity - Mains	39.95	15,110,171	R2.5	80.00	45.27	85.22	80.00	8,050,177
361.22	Collection Sewers - Gravity - Mains Relining	2.03	1,096,644	R2.5	60.00	57.89	59.92	60.00	1,059,746
361.23	Collection Sewers - Gravity - Manholes	38.82	4,989,198	R2.5	80.00	46.21	85.03	80.00	2,721,303
363.20	Service Laterals	36.39	2,394,359	R3.0	70.00	36.94	73.33	70.00	1,213,391
Grand Total		30.28	49,898,907		67.83	41.31	70.83	0.60	30,113,231

This conclusion was tested for economic obsolescence based on the results of the income and market approaches as explained in pages 13-15 of the appraisal report. The results of the income and market approached are described in the remainder of this testimony. Based on our review of the preliminary cost approach and the results of the income and market approaches detailed as follows:

# DIRECT TESTIMONY OF JEROME C. WEINERT

<b>Willistown Wastewater Collection System</b> <b>Wastewater Collection System and Treatment</b> <b>Investor-Owned Utility</b> <b>As of January 20, 2021</b>				
	Column Reference in OCLD & RCNLD	Amount in \$s		
<b>Depreciated Replacement Cost (RCNLD)</b>			<b>18,235,751</b>	<b>Income</b>
Original Cost (OC)	(9)	19,641,520	25,695,620	Market
Replacement Cost New (RCN)	(16)	49,898,907	18,500,000	Conclusion
Replacement Cost New less Depreciation (RCNLD)	(31)	30,113,231	17,500,000	Purchase Price
Intangible Assets - Treatment Contracts				
Fair Market Value (FMV)	(41)	18,498,555	(11,613,231)	Economic Obsolescence
			38.57%	EO %

Therefore, the final cost approach conclusion was determined to be \$18,498,555 as follows:

<b>Willistown Township, Pennsylvania</b> <b>Willistown Wastewater Collection System</b> <b>Wastewater Collection System and Treatment</b> <b>Investor-Owned Utility</b> <b>As of January 20, 2021</b>				
<b>Fair Market Value</b>				
(36)	(37)	(39)	(40)	(41)
Account	Description	Preliminary Cost Approach	Economic Obsolescence	Fair Market Value
		CORLD \$s	% of Preliminary Cost Approach	Appraisal Date Value \$s
Input	Input	Calculation	Input	Calculation
Eng Assmnt	Eng Assmnt	Col (31)	AUS Economic Obsolescence Analysis	(39) * [1.00-Col (40)]
Account	Description	Prelim CORLD	EO%	FMV
353.20	Land & Land Rights - Collection System	223,776	38.57%	137,463
353.30	Land & Land Rights - Pumping	109,988	38.57%	67,563
353.40	Land & Land Rights - Treatment	1,945,510	38.57%	1,195,128
354.30	Structures & Improvements - Pumping	2,218,402	38.57%	1,362,766
354.40	Structures & Improvements - Treatment	1,941,807	38.57%	1,192,852
355.30	Generating Equipment - Pumping	282,781	38.57%	173,712
360.21	Collection Sewers - Force - Mains	10,144,396	38.57%	6,231,703
361.21	Collection Sewers - Gravity - Mains	8,050,177	38.57%	4,945,223
361.22	Collection Sewers - Gravity - Mains Relining	1,059,746	38.57%	651,002
361.23	Collection Sewers - Gravity - Manholes	2,721,303	38.57%	1,671,697
363.20	Service Laterals	1,213,391	38.57%	745,386
	Grand Total	30,113,231	38.57%	18,498,555

DIRECT TESTIMONY OF JEROME C. WEINERT

1           These results are detailed in Application **Exhibit R** (AUS Appraisal) under the Cost  
2           Approach section.

3  
4    **Market Approach**

5    **Q.     Regarding your application of the market approach, what methods did you use to**  
6           **determine the market approach result?**

7    **A.**    I used the comparable sales of water and wastewater properties in the Commonwealth of  
8           Pennsylvania subsequent to the passage of Section 1329 and financial market value ratios  
9           of publicly traded water and wastewater companies as reported in the January 8, 2021,  
10          issue of Value Line Investment Survey.

11  
12   **Q.     What assumptions, analyses, and/or adjustments did you make under each method?**

13   **A.**    Under the comparable sales method, it is my opinion that sales amount to depreciated  
14          replacement cost is the best indicator in arriving at the appraised value of physical assets  
15          operating as a wastewater collection system. Under the financial ratios method, I believe  
16          that an accurate result depends on using the weighted mean of the ratio of the market debt  
17          and equity to book debt and equity.

18  
19   **Q.     What were the results of each analysis you performed?**

20   **A.**    The comparable sales analysis produced a result of \$25,695,620 detailed as follows:

# DIRECT TESTIMONY OF JEROME C. WEINERT

Willistown Township, Pennsylvania					
Willistown Wastewater Collection System					
Wastewater Collection System and Treatment					
Investor-Owned Utility					
As of January 20, 2021					
Comparable Sales Approach					
Market Sales Data					
Central Tendency and Reliability Analysis					
Market Sales Analysis - PP/OCOLD			Market Sales Analysis - PP/COROLD		
	Simple	Weighted		Simple	Weighted
Mean	1.7594	1.8494	Mean	0.8087	0.8533
Standard Deviation	0.5882	0.5292	Standard Deviation	0.1746	0.1493
Median	1.49	1.4375	Median	0.8229	0.7558
Mode	1.4418	1.4418	Mode	0.6918	0.6918
Conclusion		1.8494	Conclusion		0.8533
		AUS Input			AUS Input
		Cost Approach - OCLD			Cost Approach - COROLD
Willistown Wastewater Collection System OCLD		13,524,101	Willistown Wastewater Collection System COROLD		30,113,231
Market Value Indication		25,011,472	Market Value Indication		25,695,620
Market Sales Analysis - PP/Customer			Financial Basis <sup>1</sup>		
	Simple	Weighted		Market Value per Share to Book Value per Share	
Water & Wastewater Industry			Financial Markets		
Mean	7,963	10,962			
Standard Deviation	3,637	4,613			
Median	8,315	4,963			
Mode	7,243	7,243			
Water Tretment & Distribution					
Mean	6,123		Market to Book (equity)		3.40
Standard Deviation			Market to Book (equity and debt)		2.11
Median	5,021				
Wastewater Collection & Treatment			Use (equity and debt)		2.11
Mean	9,579				AUS Input
Standard Deviation		-			
Median	8,754				
Wastewater Collection					
Mean	6,507				
Standard Deviation					
Median	6,636				
Wastewater Treatment Only					
Mean	3,072				
Standard Deviation					
Median	2,118				
Willistown Wastewater Collection System Customers		2,294	Willistown Wastewater Collection System OCLD		13,524,101
		AUS Input			Cost Approach - OCLD
Wastewater Collection & Treatment PP/Customer		9,579			
		AUS Input			
Collection and Treatement Customers Market Value II		21,974,226	Market Value Indication		28,535,853
Treatement Only Market Value Indication					
Treatment Only PP/customer		2,118			
Treatment Only Customers		-			
Market Value Indication Treatment Only		-			
Total Market Value Indication					
		21,974,226			
Market Sales Analysis - PP/Cash Flows (EBITDA Period 1-5)			Market Sales Analysis - PP/Cash Flows (EBITDA Period 1-13)		
	Simple	Weighted		Simple	Weighted
Mean	17.48	15.32	Mean	11.62	11.45
Standard Deviation	5.71	5.10	Standard Deviation	2.67	2.14
Median	17.41	18.13	Median	11.65	12.07
Mode	10.68	10.68	Mode	9.55	9.55
Forecast			Forecast		
Conclusion		18.00	Conclusion		12.00
		AUS Input			AUS Input
Willistown Wastewater Collection System Cash Flows		892,978	Willistown Wastewater Collection System Cash Flows		1,168,600
		Income Approach			Income Approach
Market Value Indication		16,073,611			14,023,202
Summary of Market Analyses					
Indicators					
OCLD		25,011,472			
COROLD		25,695,620			
Customers		21,974,226			
Cash Flows					
EBITDA Periods 1-5		16,073,611			
EBITDA Periods 1-13		14,023,202			
Value Line		28,535,853			
Mean		21,885,664			
Median		23,492,849			
Conclusion		25,695,620			



DIRECT TESTIMONY OF JEROME C. WEINERT

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**Q. What was your market approach result?**

**A.** I used the results of \$25,695,620 because I believe those results represent an accurate assessment and it was based on the relationship of market comparable sales to the replacement cost new less depreciation of those properties. These results are detailed in Application **Exhibit R** (AUS Appraisal) under the Market Approach section.

**Q. What was the calculation you used to determine your overall market approach results?**

**A.** I used the weighted mean of the purchase price to replacement cost less depreciation.

**Q. What comparable transactions or comparable sales did you evaluate to develop your market approach?**

**A.** I examined the following transactions to develop the result of my market approach:

# DIRECT TESTIMONY OF JEROME C. WEINERT

Willistown Township, Pennsylvania  
Willistown Wastewater Collection System  
Wastewater Collection System and Treatment  
Investor-Owned Utility  
As of January 20, 2021

## Comparable Sales Approach

### Market Sales Data

RowID	Approximate Date	Buyer	Seller	County	Type of Facility	Initial Purchase Price	Final Purchase Price <sup>1</sup>	Number of Total Customers	Relationship to the passage of Section 1329
1	9/1/2016	PA American Water	City of McKeesport	Allegheny	Wastewater Collection and Treatment	156,000,000	159,000,000	21,953	Post
2	8/1/2016	Aqua PA	New Garden Twp. SA	Chester	Wastewater Collection and Paid for and Owned Treatment	29,500,000	29,500,000	2,106	Post
3	11/16/2016	Aqua PA	Limerick Township	Montgomery	Wastewater Collection and Treatment System	75,100,000	64,373,378	5,434	Post
4	12/10/2017	Aqua PA	East Bradford Township	Chester	Wastewater Collection and paid for treatment	5,000,000	5,000,000	1,248	Post
5	4/20/2018	SUEZ	Mahoning	Carbon	Water Distribution System	4,734,800	4,734,800	1,186	Post
6	4/20/2018	SUEZ	Mahoning	Carbon	Wastewater Collection	4,765,200	4,765,200	1,451	Post
7	6/1/2018	Aqua PA	Cheltenham	Montgomery	Wastewater Collection	50,250,000	50,250,000	10,500	Post
8	11/14/2018	PA American Water	Steelton	Dauphin	Water Distribution and Treatment	22,500,000	21,750,000	2,325	Post
9	1/1/2017	PA American Water	Sadsbury	Chester	Wastewater Collection	9,250,000	8,600,000	998	Post
10	5/28/2018	PA American Water	Exeter	Berks	Wastewater Collection and Treatment	96,000,000	93,500,000	9,000	Post
11	10/29/2018	Aqua PA	East Norriton	Montgomery	Wastewater Collection	21,000,000	21,000,000	4,950	Post
12	9/30/2018	PA American	Kane	McKean	Wastewater Collection and Treatment	17,560,000	17,560,000	2,006	Post
13	12/10/2019	PA American	Royersford	Montgomery	Wastewater Collection and Treatment	13,000,000	13,000,000	1,596	Post
14	12/17/2019	PA American	Valley	Chester	Water Treatment and Distribution System	7,325,000	7,325,000	1,459	Post
15	12/17/2019	PA American	Valley	Chester	Wastewater Collection System	13,950,000	13,950,000	1,644	Post
16	12/31/2019	Aqua PA	Delaware County Regional	Delaware	Wastewater Collection and Treatment	276,500,000	276,500,000	16,473	Post
17	4/28/2020	PA American Water	Upper Pottsgrove	Montgomery	Wastewater Collection	13,750,000	13,750,000	1,428	Post
18	9/17/2020	Aqua PA	Lower Makefield	Bucks	Wastewater Collection and Purchased Treatment Capacity	53,000,000	53,000,000	11,151	Post

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**Income Approach**

**Q. Regarding your application of the income approach, what method did you use to determine the income approach result?**

**A.** I used the discounted cash flow method.

**Q. What assumptions did you employ to develop your income approach result?**

**A.** Under the income approach, it is my opinion that the results of the future operations of the Willistown Township’s Wastewater Collection and Treatment System must be considered. I believe that an accurate result depends on adjusting recent results of the systems operation to better reflect how those results will migrate over future periods under the operation as a rate regulated wastewater system regulated by the PUC.

**Q. What discount rate did you use to calculate your income approach?**

**A.** I used a discount rate of 7.57% and a capitalization rate of 5.65%.

**Q. Please explain how you developed the discount rate.**

**A.** In each case, the discount rate was a market discount rate at the appraisal date and was determined using the weighted average cost of capital (“WACC”) of both debt and equity. The inputs to the WACC determination, capital structure, cost of debt, cost of equity, and income tax rate (state and federal) were determined based on an analysis of Value Line Investment Surveys and the Ibbotson Stock, Bonds, Bills, and Inflation (“Ibbotson SBBI”) 2021 Edition (SBBI activity over the period 1926 through 2020). The cost of debt was

DIRECT TESTIMONY OF JEROME C. WEINERT

1 determined at January 1, 2021, based on the Value Line Selected Yields publication. The  
2 cost of equity was based on the capital asset pricing model (“CAPM”) and the Dividend  
3 Growth Model (“DGM”), two recognized cost of equity estimating models and the PUC’s  
4 Bureau of Technical Utility Services’ Report on Quarterly Earnings of Jurisdictional  
5 Utilities for Year-ending December 31, 2020. The above-described data for the Willistown  
6 Township appraisal can be found in the exhibits to my appraisal report in the section  
7 entitled Cost of Capital / Required Return.

8  
9 **Q. What capital structure inputs differ from those identified in capital structure set forth**  
10 **earlier in your testimony?**

11 **A.** None. As described in the previous discussion of the capital structure, we utilized a market  
12 required capital structure based on analysis of the water / wastewater industry’s market  
13 capital structure as defined by analysis of market financials as published in Value Line  
14 Investment Survey (January 1, 2021). The theory in appraisal is to estimate the value of a  
15 property in an arm’s length transaction wherein the purchaser finances the purchase with  
16 capital (debt and equity) available in the financial markets at the appraisal date. Those are  
17 the current (appraisal date) financial markets.

18  
19 **Q. What is the source and basis of the alternative input you propose in the income**  
20 **approach?**

21 **A.** As discussed above, we had used Value Line Investment Survey to develop a market  
22 required capital structure. Please see Application **Exhibit R** (AUS Appraisal) Income

DIRECT TESTIMONY OF JEROME C. WEINERT

1 Approach section for the cost of capital of the Income Approach and Cost of Capital /  
2 Required Return section for the basis of the Cost of Capital / Required Return.

3  
4 **Q. If you used a terminal value in your discounted cash flow analysis what is the number**  
5 **of years over which the cash flows are considered?**

6 **A.** I considered those cash flows over 19 periods with period 20 representing all future periods.

7  
8 **Q. What is the basis for using this number of years?**

9 **A.** It is my opinion that the use of 19 periods is a reasonable number of periods for the forecast  
10 revenues and expenses to stabilize.

11  
12 **Q. What is your Income Approach conclusion?**

13 **A.** AUS Consultants' income approach conclusion was determined to be \$18,235,751 detailed  
14 as follows:

# DIRECT TESTIMONY OF JEROME C. WEINERT

Willistown Township, Pennsylvania Willistown Wastewater Collection System Wastewater Collection System and Treatment Potential Purchaser: Investor-Owned Utility As of January 20, 2021 Discounted Cash Flow Analysis													
Discount Rate:		7.57%											
Capitalization Rate:		5.65%											
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
Period	Age	Revenues	O&M Expenses	Tax Depreciation	Cash Flow from Operations	Taxable Income before State & Federal Taxes	State and Federal Taxes @ 28.89%	Capital Expenditures	Change in Working Capital	Net Cash Flows	Period Present Worth Factor (PW)	PW of Cashflow	Accumulated PW of Cashflows
					(3)-(4)	(6)-(5)	(7) *28.89%			(3)-(4)-(8)-(9)-(10)		(11)*(12)	Sum (13)
1	0.5	2,659,679	1,833,318	773,554	826,361	52,807	15,256	417,347	-	393,758	0.964	379,583	379,583
2	1.5	2,659,679	1,869,985	782,619	789,694	7,075	2,044	420,814	-	366,836	0.896	328,685	708,268
3	2.5	3,457,583	1,907,385	791,937	1,550,198	758,261	219,062	424,334	43,086	863,716	0.833	719,475	1,427,743
4	3.5	3,457,583	1,945,533	801,513	1,512,050	710,537	205,274	427,902	-	878,874	0.775	681,127	2,108,870
5	4.5	3,457,583	1,984,444	811,355	1,473,139	661,784	191,190	431,525	-	850,424	0.720	612,305	2,721,175
6	5.5	4,149,100	2,024,133	821,467	2,124,967	1,303,500	376,581	435,202	37,342	1,275,842	0.669	853,538	3,574,713
7	6.5	4,149,100	2,064,616	800,818	2,084,484	1,283,666	370,851	319,482	-	1,394,151	0.622	867,162	4,441,875
8	7.5	4,149,100	2,105,908	808,887	2,043,192	1,234,305	356,591	322,486	-	1,364,115	0.579	789,823	5,231,698
9	8.5	4,564,010	2,148,026	817,198	2,415,984	1,598,786	461,889	325,541	22,406	1,606,148	0.538	864,108	6,095,806
10	9.5	4,564,010	2,190,987	825,760	2,373,023	1,547,263	447,004	328,654	-	1,597,365	0.500	798,683	6,894,489
11	10.5	4,564,010	2,234,806	834,578	2,329,204	1,494,626	431,797	331,824	-	1,565,583	0.465	727,996	7,622,485
12	11.5	4,837,851	2,279,503	843,663	2,558,348	1,714,685	495,373	335,055	14,787	1,713,133	0.432	740,073	8,362,558
13	12.5	4,837,851	2,325,093	853,018	2,512,758	1,659,740	479,499	338,345	-	1,694,914	0.402	681,355	9,043,913
14	13.5	4,837,851	2,371,595	862,653	2,466,256	1,603,603	463,281	341,698	-	1,661,277	0.373	619,656	9,663,569
15	14.5	5,128,122	2,419,027	872,580	2,709,095	1,836,515	530,569	345,119	15,674	1,817,733	0.347	630,753	10,294,322
16	15.5	5,128,122	2,467,408	771,844	2,660,714	1,888,870	545,694	348,603	-	1,766,417	0.323	570,553	10,864,875
17	16.5	5,128,122	2,516,756	778,275	2,611,366	1,833,091	529,580	352,158	-	1,729,628	0.300	518,888	11,383,763
18	17.5	5,435,809	2,567,092	784,893	2,868,717	2,083,824	602,017	355,784	16,616	1,894,300	0.279	528,510	11,912,273
19	18.5	5,435,809	2,618,434	791,709	2,817,375	2,025,666	585,215	359,487	-	1,872,673	0.259	485,022	12,397,295
20 and beyond	19.5	5,435,809	2,670,802	798,726	2,765,007	1,966,281	568,058	363,263	-	1,833,686	3.184	5,838,456	18,235,751
Age				19.5									
PW(Age) = 1/(1+Discount Rate) <sup>(Age)</sup>				0.241									
PW to Perpetuity = 1/Capitalization Rate				13.210									
PW <sub>(20and Beyond)</sub> = PW to Perpetuity * PW Factor <sub>(19.5)</sub>				3.184									
								Net Plant ADIT	15,660,079				
									(2,040,733)				
								Rate Base	13,619,346				
								Annual Plant Construction Inflation Rate	0.0422 Input				
								Plant Inflation over 19.5 years	31,129,893				
									0.241				
									7,502,304				
									19,899,599				
								PP	17,500,000				
								OCLD	13,524,101				
								PP/OCLD	1.294				
								RCNLD	30,113,231				
								RCNLD/PP	1.720756057				
									23,435,572.16				
									0.241				
									5,647,973				
									18,045,268				
								Average	17,965,044				

These results are detailed in Application **Exhibit R** (AUS Appraisal) under the Income Approach section.

**Q. What number of Selling Utility customers or equivalent dwelling units did you use to value the Seller's system and how did you develop that number?**

DIRECT TESTIMONY OF JEROME C. WEINERT

1    **A.**     I used 2,294 customers based on a customer count provided by Willistown Township in  
2           developing the forecasted revenues and expenses. I also used past and budgeted results  
3           from operations to establish forecasted operating results.

4  
5    **Q.**     **Did you make any updates to your appraisal after it was submitted to the Seller, and**  
6           **if so, what was the update, when was it made, and why was it necessary?**

7    **A.**     No.

8  
9    **Q.**     **Does this conclude your direct testimony?**

10   **A.**     It does. However, by filing this direct testimony I understand that I may have the  
11          opportunity to submit additional testimony responsive to challenges to my appraisal.

Curriculum Vitae (CV) of Jerome C. Weinert, P.E., CDP, ASA

Mr. Weinert is currently Principal and Director of AUS Consultants, Depreciation and Valuation. He has forty-nine (2021-1972) years' experience in valuation and depreciation consulting and management. AUS, with offices across the country, has provided consulting services to the regulated utility industry nationally for over thirty-nine years. A partial list of services provided includes valuations depreciation studies, rate of return studies, cost of service studies, and rate design.

Prior to joining AUS in 1987, Mr. Weinert was employed by American Appraisal Associates, Inc. (American) for sixteen years in their Regulated Industries Group. He held various positions at American, the last being supervising appraiser. Among his other valuation responsibilities, he directed the firm's utility industry capital recovery studies and AUS Consultant's valuation of communication company assets and businesses.

Mr. Weinert graduated from the Milwaukee School of Engineering with a Bachelor of Science degree in Mechanical Engineering and received a master's in business administration from Marquette University. He is a registered professional engineer (1976) (by examination) in the state of Wisconsin as well as a senior member (1982) of the American Society of Appraisers in the public utility valuation field. This latter designation is obtained by written examination primarily in the areas of utility valuation, depreciation, and the economics of regulated firms. He is also a Certified Depreciation Professional (1997) (CDP) and founding member of the Society of Depreciation Professionals and the Society's 1995 President and sponsor of the Society's Certification and re-certification program as such Mr. Weinert developed these programs and oversaw their initial introduction into the Society. He also worked in conjunction with Society members in the development of the Society's training programs which as of 2003 has become the only such formalized depreciation training program in the North America and is an instructor in several of its courses.

During his professional career related to valuations and depreciation matters Mr. Weinert has testified before various courts and public service commissions on these subjects. He has also assisted numerous utilities in preparing capital recovery plans which specifically address the issues of plant replacement. Mr. Weinert has also presented expert testimony on valuation matters. Mr. Weinert has testified before the Pennsylvania Public Utility Commission on regulatory matters associated with Pennsylvania Section 1329 matters. On matters related to eminent domain issues, Mr. Weinert has presented expert testimony in the Massachusetts Superior Court, the Court of Common Pleas, Fayette County, Ohio, the New Hampshire Public Utilities Commission, the Twentieth Judicial Court (deposition only) in Charlotte County, Florida, the Nineteenth Judicial Circuit Court in St. Lucie County, Florida (deposition only). In regard to ad valorem taxation, Mr. Weinert has presented study results to the New York State Board of Equalization and Assessment (now the New York Office of Real Property Services (NY ORPS)), pertaining to useful life and net salvage values for all types of utility property subject to the Board's mass appraisal model. Mr. Weinert has appeared before the Valuation Adjustment Board in Florida for Duval, Hillsborough, Okeechobee, and Palm Beach counties, the Twelfth Judicial Circuit Sarasota County, Florida, the California Board of Equalization and Assessment, the Arizona Board of Assessment, the Missouri Board of Taxation, the Colorado and Texas Departments of Review, the Massachusetts Tax Appeal Court, the Superior Court of the State of Arizona in the County of Maricopa, the State Tax Appeal Board of the State of Montana, the New York City Tax Commission and the Public Utility Commission of Pennsylvania Section 1329 hearings (8).

Mr. Weinert has appeared before regulatory bodies in Alaska, Arkansas, Illinois, Indiana, Iowa, Missouri, Nevada, Nebraska, North Carolina, Ohio, Oregon, Pennsylvania, and South Carolina in support of rate-base valuation determination and capital recovery. He has presented testimony on depreciation matters before the Canadian Radio-Television and Telecommunications Commission (CRTC) and the United

**QUALIFICATIONS 1**



States Federal Energy Regulatory Commission (FERC). In terms of water and wastewater acquisitions and applications for regulatory approval of rate base Mr. Weinert has testified for two investor-owned acquisitions of municipal wastewater authorities one representing the municipality and secondly for the acquiring investor-owned utility. He has submitted study results to the State Commissions of Alabama, Alaska, Arkansas, Idaho, Illinois, Indiana, Iowa, Kentucky, Michigan, Minnesota, Mississippi, Missouri, Montana, Nebraska, North Carolina, Oregon, Pennsylvania, South Carolina, Washington, and Wisconsin, and the Federal Communications Commission.

Mr. Weinert has presented papers on valuation and depreciation topics to professional and utility industry trade organizations. He also directed AUS Consultants' semi-annual week-long depreciation training programs (1988-1997). These specialized training courses, offered at basic and advanced levels, teach depreciation study techniques to public utility and public service commission staff specialists. The training includes depreciation theory and concepts and hands-on experience with personal computer-based analytical depreciation programs.

**Appraisal & Capital Recovery Activities Client List**

<u>Company</u>	<u>Property</u>	<u>Study Year</u>	<u>Year Performed</u>	<u>Activity</u>
<b>2021</b>				
AT&T Communications	North America	2020	2021	Ad Valorem Tax Appraisal
AT&T Communications	California	2020	2021	Ad Valorem Tax Appraisal
AT&T Communications	Florida	2020	2021	Ad Valorem Tax Appraisal
Verizon Business (formerly MCI)	North America	2020	2021	Ad Valorem Tax Appraisal
Lower Makefield, PA	Lower Makefield Wastewater	2021	2021	Fair Market Value 1329
Cozen O'Connor	Egg Harbor, NJ Water & Wastewater	2021	2021	Fair Market Value
<b>2020</b>				
AT&T Communications	North America	2019	2020	Ad Valorem Tax Appraisal
AT&T Communications	California	2019	2020	Ad Valorem Tax Appraisal
AT&T Communications	Florida	2019	2020	Ad Valorem Tax Appraisal
AT&T - Indiana Bell Telephone Company	Indiana	2019	2020	Ad Valorem Tax Appraisal
Verizon New York, Inc.	New York	2019	2020	Ad Valorem Tax Appraisal
Verizon Business (formerly MCI)	North America	2019	2020	Ad Valorem Tax Appraisal
East Norriton Township, PA	East Norriton Wastewater	2019	2020	Fair Market Value 1329
Pennsylvania American Water Company	Kane Wastewater	2019	2020	Fair Market Value 1329
Pennsylvania American Water Company	Royersford Wastewater	2019	2020	Fair Market Value 1329
Pennsylvania American Water Company	Valley Wastewater	2019	2020	Fair Market Value 1329
Pennsylvania American Water Company	Valley Water	2019	2020	Fair Market Value 1329
Lehigh County Authority	Allentown Water & Sewer	2020	2020	Financing
Pennsylvania American Water Company	Upper Pottsgrove wastewater	2020	2020	Fair Market Value 1329
<b>2019</b>				
AT&T Communications	North America	2018	2019	Ad Valorem Tax Appraisal
AT&T Communications	California	2018	2019	Ad Valorem Tax Appraisal
AT&T Communications	Florida	2018	2019	Ad Valorem Tax Appraisal
AT&T - Indiana Bell Telephone Company	Indiana	2018	2019	Ad Valorem Tax Appraisal
Embarq Florida, Inc.	Florida	2018	2019	Ad Valorem Tax Appraisal
Verizon Business (formerly MCI)	North America	2018	2019	Ad Valorem Tax Appraisal
Cheltenham Township, PA	Cheltenham Wastewater	2018	2019	Fair Market Value 1329
Pennsylvania American Water Company	Steelton Water	2018	2019	Fair Market Value 1329
Pennsylvania American Water Company	Exeter Wastewater	2018	2019	Fair Market Value 1329
<b>2018</b>				
AT&T Communications	North America	2017	2018	Ad Valorem Tax Appraisal
AT&T Communications	California	2017	2018	Ad Valorem Tax Appraisal
AT&T Communications	Florida	2017	2018	Ad Valorem Tax Appraisal
AT&T - Indiana Bell Telephone Company	Indiana	2017	2018	Ad Valorem Tax Appraisal
Embarq Florida, Inc.	Florida	2017	2018	Ad Valorem Tax Appraisal
Verizon Business (formerly MCI)	North America	2017	2018	Ad Valorem Tax Appraisal
Level 3 Communications, LLC	North America	2017	2018	Ad Valorem Tax Appraisal
Level 3 Communications, LLC	California	2017	2018	Ad Valorem Tax Appraisal
CenturyLink Communications, LLC	North America	2017	2018	Ad Valorem Tax Appraisal
CenturyLink Communications, LLC	California	2017	2018	Ad Valorem Tax Appraisal
East Bradford Township, PA	East Bradford Wastewater	2018	2018	Fair Market Value 1329
Pennsylvania American Water Company	Sadsbury Wastewater	2017	2018	Fair Market Value Appraisal

**QUALIFICATIONS 3**

## Appraisal &amp; Capital Recovery Activities Client List

<u>Company</u>	<u>Property</u>	<u>Study Year</u>	<u>Year Performed</u>	<u>Activity</u>
Pennsylvania American Water Company Appraisal	Kane Wastewater	2017	2018	Fair Market Value
<b>2017</b>				
AT&T Communications	North America	2016	2017	Ad Valorem Tax Appraisal
AT&T Communications	California	2016	2017	Ad Valorem Tax Appraisal
AT&T Communications	Florida	2016	2017	Ad Valorem Tax Appraisal
AT&T - Indiana Bell Telephone Company	Indiana	2016	2017	Ad Valorem Tax Appraisal
Embarq Florida, Inc.	Florida	2016	2017	Ad Valorem Tax Appraisal
Verizon Communications	Florida	2016	2017	Ad Valorem Tax Appraisal
Verizon Business (formerly MCI)	North America	2016	2017	Ad Valorem Tax Appraisal
Level 3 Communications	North America	2016	2017	Ad Valorem Tax Appraisal
Level 3 Communications	California	2016	2017	Ad Valorem Tax Appraisal
Whitpain Township, PA	Whitpain Wastewater	2016	2017	Appraisal for Planning
Plymouth Township, PA	Plymouth Wastewater	2016	2017	Appraisal for Planning
East Norriton Township, PA	East Norriton Wastewater	2016	2017	Appraisal for Planning
Pennsylvania American Water Company	Sadsbury Wastewater	2016	2017	Fair Market Value Appraisal
Pennsylvania American Water Company	McKeesport Wastewater	2016	2017	Fair Market Value Appraisal
Intermountain Gas Company	Idaho	2016	2017	Depreciation Study
<b>2016</b>				
AT&T Communications	North America	2015	2016	Ad Valorem Tax Appraisal
AT&T Communications	California	2015	2016	Ad Valorem Tax Appraisal
AT&T Communications	Florida	2015	2016	Ad Valorem Tax Appraisal
AT&T - Indiana Bell Telephone Company	Indiana	2015	2016	Ad Valorem Tax Appraisal
Embarq Florida, Inc.	Florida	2015	2016	Ad Valorem Tax Appraisal
Verizon Communications	Florida	2015	2016	Ad Valorem Tax Appraisal
Verizon Business (formerly MCI)	North America	2015	2016	Ad Valorem Tax Appraisal
Level 3 Communications	North America,	2015	2016	Ad Valorem Tax Appraisal
Level 3 Communications	California	2015	2016	Ad Valorem Tax Appraisal
New Garden Township, PA	New Garden Wastewater	2016	2016	Fair Market Value Appraisal
<b>2015</b>				
AT&T Communications	North America	2014	2015	Ad Valorem Tax Appraisal
AT&T Communications	California	2014	2015	Ad Valorem Tax Appraisal
AT&T Communications	Florida	2014	2015	Ad Valorem Tax Appraisal
AT&T - Indiana Bell Telephone Company	Indiana	2014	2015	Ad Valorem Tax Appraisal
Embarq Florida, Inc.	Florida	2014	2015	Ad Valorem Tax Appraisal
Verizon Communications	Florida	2014	2015	Ad Valorem Tax Appraisal
Verizon Business (formerly MCI)	North America	2014	2015	Ad Valorem Tax Appraisal
Level 3 Communications	North America,	2014	2015	Ad Valorem Tax Appraisal
Level 3 Communications	California	2014	2015	Ad Valorem Tax Appraisal
Verizon Wireless	Nationwide	2014	2015	Ad Valorem Tax Appraisal
<b>2014</b>				
AT&T Communications	North America	2013	2014	Ad Valorem Tax Appraisal
AT&T Communications	California	2013	2014	Ad Valorem Tax Appraisal
AT&T Communications	Florida	2013	2014	Ad Valorem Tax Appraisal
AT&T - Indiana Bell Telephone Company	Indiana	2013	2014	Ad Valorem Tax Appraisal

## QUALIFICATIONS 4

**Appraisal & Capital Recovery Activities Client List**

<u>Company</u>	<u>Property</u>	<u>Study Year</u>	<u>Year Performed</u>	<u>Activity</u>
Embarq Florida, Inc.	Florida	2013	2014	Ad Valorem Tax Appraisal
Verizon Communications	Florida	2013	2014	Ad Valorem Tax Appraisal
Verizon Business (formerly MCI)	North America	2013	2014	Ad Valorem Tax Appraisal
Level 3 Communications	North America,	2013	2014	Ad Valorem Tax Appraisal
Level 3 Communications	California	2013	2014	Ad Valorem Tax Appraisal
Cascade Natural Gas Corporation	Oregon & Washington	2013	2014	Depreciation Study
Intermountain Gas Company	Idaho	2013	2014	Depreciation Study
Virgin Islands Telephone Corporation	US Virgin Islands	2013	2014	Depreciation Study
Verizon Wireless	Nationwide	2013	2014	Ad Valorem Tax Appraisal

**2013**

AT&T Communications	North America	2012	2013	Ad Valorem Tax Appraisal
AT&T Communications	California	2012	2013	Ad Valorem Tax Appraisal
AT&T Communications	Florida	2012	2013	Ad Valorem Tax Appraisal
AT&T - Indiana Bell Telephone Company	Indiana	2012	2013	Ad Valorem Tax Appraisal
AT&T - Michigan Bell Telephone Company	Michigan	2012	2013	Ad Valorem Tax Appraisal
Embarq Florida, Inc.	Florida	2012	2013	Ad Valorem Tax Appraisal
Verizon Communications	Florida	2012	2013	Ad Valorem Tax Appraisal
Verizon Communications	New England - Mass	2012	2013	Ad Valorem Tax Appraisal
Verizon Business (formerly MCI)	North America	2012	2013	Ad Valorem Tax Appraisal
Level 3 Communications	North America,	2012	2013	Ad Valorem Tax Appraisal
	California			
Sprint Nextel Corporation	North America	2012	2013	Ad Valorem Tax Appraisal
Verizon Wireless	Palm Beach, Florida	2012	2013	Ad Valorem Tax Appraisal
Verizon Communications	New England Mass	2002-2007	2013	Ad Valorem Tax Appraisal

**2012**

AT&T Communications	North America	2011	2012	Ad Valorem Tax Appraisal
AT&T Communications	California	2011	2012	Ad Valorem Tax Appraisal
AT&T Communications	Florida	2011	2012	Ad Valorem Tax Appraisal
AT&T - Indiana Bell Telephone Company	Indiana	2011	2012	Ad Valorem Tax Appraisal
AT&T - Michigan Bell Telephone Company	Michigan	2011	2012	Ad Valorem Tax Appraisal
Embarq Florida, Inc.	Florida	2011	2012	Ad Valorem Tax Appraisal
Verizon Communications	Florida	2011	2012	Ad Valorem Tax Appraisal
Verizon Communications	New England - Mass	2011	2012	Ad Valorem Tax Appraisal
Verizon Business (formerly MCI)	North America	2011	2012	Ad Valorem Tax Appraisal
Level 3 Communications	North America,	2011	2012	Ad Valorem Tax Appraisal
	California			
Sprint Nextel Corporation	North America	2011	2012	Ad Valorem Tax Appraisal
Verizon Wireless	Palm Beach, Florida	2011	2012	Ad Valorem Tax Appraisal
MetroPCS	Palm Beach, Florida	2011	2012	Ad Valorem Tax Appraisal
Verizon Communications	Florida - revised	2008	2012	Ad Valorem Tax Appraisal
Verizon Wireless	Palm Beach, Florida	2012	2012	Ad Valorem Tax Appraisal

**2011**

AT&T Communications	North America	2010	2011	Ad Valorem Tax Appraisal
AT&T Communications	California	2010	2011	Ad Valorem Tax Appraisal
AT&T Communications	Florida	2010	2011	Ad Valorem Tax Appraisal
AT&T - Indiana Bell Telephone Company	Indiana	2010	2011	Ad Valorem Tax Appraisal
AT&T - Michigan Bell Telephone Company	Michigan	2010	2011	Ad Valorem Tax Appraisal

**QUALIFICATIONS 5**

## Appraisal &amp; Capital Recovery Activities Client List

<u>Company</u>	<u>Property</u>	<u>Study Year</u>	<u>Year Performed</u>	<u>Activity</u>
Embarq Florida, Inc.	Florida	2010	2011	Ad Valorem Tax Appraisal
Verizon Communications	Florida	2010	2011	Ad Valorem Tax Appraisal
Verizon Communications	New England - Mass	2010	2011	Ad Valorem Tax Appraisal
Verizon Business (formerly MCI)	North America	2010	2011	Ad Valorem Tax Appraisal
Level 3 Communications	North America, California	2010	2011	Ad Valorem Tax Appraisal
Global Crossing	North America	2010	2011	Ad Valorem Tax Appraisal
Intermountain Gas Company	Idaho	2010	2011	Depreciation Study
Sprint Nextel Corporation	North America	2010	2011	Ad Valorem Tax Appraisal
Verizon Wireless	Palm Beach, Florida	2010	2011	Ad Valorem Tax Appraisal
MetroPCS	Palm Beach, Florida	2010	2011	Ad Valorem Tax Appraisal
Verizon Communications	Florida - revised	2008	2011	Ad Valorem Tax Appraisal
Intermountain Gas Company	Idaho	2010	2011	Depreciation Study
Virgin Islands Telephone Corporation	US Virgin Islands	2010	2011	Technical Update of Depreciation Study

**2010**

AT&T Communications	North America	2009	2010	Ad Valorem Tax Appraisal
AT&T Communications	California	2009	2010	Ad Valorem Tax Appraisal
AT&T Communications	Florida	2009	2010	Ad Valorem Tax Appraisal
AT&T - Indiana Bell Telephone Company	Indiana	2009	2010	Ad Valorem Tax Appraisal
AT&T - Michigan Bell Telephone Company	Michigan	2009	2010	Ad Valorem Tax Appraisal
AT&T - Southwestern Bell Telephone Company		2009	2010	Ad Valorem Tax Appraisal
Arkansas, Kansas, Missouri, Oklahoma, Texas				
Embarq Florida, Inc.	Florida	2009	2010	Ad Valorem Tax Appraisal
Embarq Missouri, Inc.	Missouri	2009	2010	Ad Valorem Tax Appraisal
Verizon Communications	Florida	2009	2010	Ad Valorem Tax Appraisal
Verizon Communications	Northwest	2009	2010	Ad Valorem Tax Appraisal
Verizon Communications	New England - Mass	2009	2010	Ad Valorem Tax Appraisal
Verizon Business (formerly MCI)	North America	2009	2010	Ad Valorem Tax Appraisal
Level 3 Communications	North America, California	2009	2010	Ad Valorem Tax Appraisal
Global Crossing	North America	2009	2010	Ad Valorem Tax Appraisal
MetroPCS	Palm Beach, Florida	2009	2010	Ad Valorem Tax Appraisal

**2009**

AT&T Communications	North America	2008	2009	Ad Valorem Tax Appraisal
AT&T Communications	California	2008	2009	Ad Valorem Tax Appraisal
AT&T Communications	Florida	2008	2009	Ad Valorem Tax Appraisal
AT&T - Indiana Bell Telephone Company	Indiana	2008	2009	Ad Valorem Tax Appraisal
AT&T - Michigan Bell Telephone Company	Michigan	2008	2009	Ad Valorem Tax Appraisal
AT&T - Wisconsin Bell Telephone Company	Wisconsin	2008	2009	Ad Valorem Tax Appraisal
AT&T - Southwestern Bell Telephone Company		2008	2009	Ad Valorem Tax Appraisal
Arkansas, Kansas, Missouri, Oklahoma, Texas				
Embarq Florida, Inc.	Florida	2008	2009	Ad Valorem Tax Appraisal
Embarq Texas, Inc.	Texas	2008	2009	Ad Valorem Tax Appraisal
Embarq Missouri, Inc.	Missouri	2008	2009	Ad Valorem Tax Appraisal
Embarq Northwest	Washington	2008	2009	Ad Valorem Tax Appraisal
Embarq Virginia	Virginia	2008	2009	Ad Valorem Tax Appraisal

**QUALIFICATIONS 6**

## Appraisal &amp; Capital Recovery Activities Client List

<u>Company</u>	<u>Property</u>	<u>Study Year</u>	<u>Year Performed</u>	<u>Activity</u>
Verizon Communications	Florida	2008	2009	Ad Valorem Tax Appraisal
Verizon Communications	Northwest	2008	2009	Ad Valorem Tax Appraisal
Verizon Communications	New England - Mass	2008	2009	Ad Valorem Tax Appraisal
Verizon Business (formerly MCI)	North America	2008	2009	Ad Valorem Tax Appraisal
Level 3 Communications	North America, California, Michigan & Arizona	2008	2009	Ad Valorem Tax Appraisal
Global Crossing	North America	2008	2009	Ad Valorem Tax Appraisal
AboveNet, Inc	North America/California	2003	2009	Ad Valorem Tax Appraisal
Verizon Wireless	Ohio Properties	2004-2005	2009	Ad Valorem Tax Appraisal
Virgin Islands Telephone Corporation	US Virgin Islands	2008	2009	Depreciation Study
Sprint Nextel Corporation	North America	2008	2009	Ad Valorem Tax Appraisal
<b>2008</b>				
AT&T Communications	North America	2007	2008	Ad Valorem Tax Appraisal
AT&T Communications	California	2007	2008	Ad Valorem Tax Appraisal
AT&T - Indiana Bell Telephone Company	Indiana	2007	2008	Ad Valorem Tax Appraisal
AT&T - Michigan Bell Telephone Company	Michigan	2007	2008	Ad Valorem Tax Appraisal
AT&T - Wisconsin Bell Telephone Company	Wisconsin	2007	2008	Ad Valorem Tax Appraisal
AT&T - Southwestern Bell Telephone Company	Arkansas, Kansas, Missouri, Oklahoma, Texas	2007	2008	Ad Valorem Tax Appraisal
Embarq Florida, Inc.	Florida	2007	2008	Ad Valorem Tax Appraisal
Embarq Texas, Inc.	Texas	2007	2008	Ad Valorem Tax Appraisal
Embarq Missouri, Inc.	Missouri	2007	2008	Ad Valorem Tax Appraisal
Embarq Northwest	Washington	2007	2008	Ad Valorem Tax Appraisal
Embarq Virginia	Virginia	2007	2008	Ad Valorem Tax Appraisal
Verizon Communications	Florida	2007	2008	Ad Valorem Tax Appraisal
Verizon Communications	California	2007	2008	Ad Valorem Tax Appraisal
Verizon Communications	Northwest	2007	2008	Ad Valorem Tax Appraisal
Verizon Communications	New England Mass	2002-2007	2008	Ad Valorem Tax Appraisal
Verizon Business (formerly MCI)	North America	2007	2008	Ad Valorem Tax Appraisal
Level 3 Communications	North America, California, Michigan & Arizona	2007	2008	Ad Valorem Tax Appraisal
Global Crossing	North America	2007	2007	Ad Valorem Tax Appraisal
Intermountain Gas Company	Idaho	2007	2008	Depreciation Study
<b>2007</b>				
AT&T Communications	North America	2006	2007	Ad Valorem Tax Appraisal
AT&T Communications	California	2006	2007	Ad Valorem Tax Appraisal
AT&T - Indiana Bell Telephone Company	Indiana	2006	2007	Ad Valorem Tax Appraisal
AT&T - Michigan Bell Telephone Company	Michigan	2006	2007	Ad Valorem Tax Appraisal
AT&T - Wisconsin Bell Telephone Company	Wisconsin	2006	2007	Ad Valorem Tax Appraisal
Embarq Florida, Inc.	Florida	2006	2007	Ad Valorem Tax Appraisal
Embarq Texas, Inc.	Texas,	2006	2007	Ad Valorem Tax Appraisal
Embarq Missouri, Inc.	Missouri	2006	2007	Ad Valorem Tax Appraisal
Embarq North Carolina	North Carolina	2006	2007	Ad Valorem Tax Appraisal
Embarq Virginia	Virginia	2006	2007	Ad Valorem Tax Appraisal
Verizon Communications	Florida	2006	2007	Ad Valorem Tax Appraisal
Verizon Communications	California	2006	2007	Ad Valorem Tax Appraisal
Verizon Communications	Northwest	2006	2007	Ad Valorem Tax Appraisal
Verizon Business (formerly MCI)	North America	2006	2007	Ad Valorem Tax Appraisal
Qwest Communications Corporation	North America	2006	2007	Ad Valorem Tax Appraisal

## QUALIFICATIONS 7

**Appraisal & Capital Recovery Activities Client List**

<u>Company</u>	<u>Property</u>	<u>Study Year</u>	<u>Year Performed</u>	<u>Activity</u>
Level 3 Communications	California North America, California, Michigan, & Arizona	2006	2007	Ad Valorem Tax Appraisal
Level 3 Communications	Arizona	2002 - 2006	2007	Ad Valorem Tax Appraisal
Global Crossing	North America	2006	2007	Ad Valorem Tax Appraisal
Alaska Communications System, Inc. (ACS)	ACS of Alaska ACS of Anchorage ACS of Fairbanks ACS of the Northland ACS Holdings	2006	2007	Depreciation Studies
Intermountain Gas Company	Idaho	2006	2007	Depreciation Study
<b>2006</b>				
AT&T Communications	Palm Beach Florida	2000 - 2003	2006	Ad Valorem Tax Appraisal
AT&T Communications	North America	2005	2006	Ad Valorem Tax Appraisal
AT&T Communications	California	2005	2006	Ad Valorem Tax Appraisal
Sprint Florida, Inc.	Florida	2005	2006	Ad Valorem Tax Appraisal
Sprint Texas, Inc.	Texas,	2005	2006	Ad Valorem Tax Appraisal
Sprint Missouri, Inc.	Missouri	2005	2006	Ad Valorem Tax Appraisal
Sprint North Carolina	North Carolina	2005	2006	Ad Valorem Tax Appraisal
Sprint Virginia	Virginia	2005	2006	Ad Valorem Tax Appraisal
Embarq Nevada	Nevada	2005	2006	Ad Valorem Tax Appraisal
Verizon Communications	Florida	2005	2006	Ad Valorem Tax Appraisal
Verizon Communications	California	2005	2006	Ad Valorem Tax Appraisal
Verizon Communications	Northwest	2005	2006	Ad Valorem Tax Appraisal
Verizon Business (formerly MCI)	Massachusetts	2002-2--5	2006	Ad Valorem Tax Appraisal
Level 3 Communications	North America	2005	2006	Ad Valorem Tax Appraisal
Level 3 Communications	Arizona	2002-2006	2006	Ad Valorem Tax Appraisal
Global Crossing	North America	2005	2006	Ad Valorem Tax Appraisal
Indianapolis Power & Light	IPL	2005	2006	Depreciation Study
<b>2005</b>				
AT&T Communications	North America	2004	2005	Ad Valorem Tax Appraisal
AT&T Communications	California	2004	2005	Ad Valorem Tax Appraisal
Sprint Florida, Inc.	Florida	2004	2005	Ad Valorem Tax Appraisal
Sprint PCS	North America	2004	2005	Ad Valorem Tax Appraisal
Verizon Communications	Florida	2004	2005	Ad Valorem Tax Appraisal
Verizon Communications	California	2004	2005	Ad Valorem Tax Appraisal
Verizon Communications	Northwest	2004	2005	Ad Valorem Tax Appraisal
Sprint Communications, LP	North America	2004	2005	Ad Valorem Tax Appraisal
Level 3 Communications	North America	2004	2005	Ad Valorem Tax Appraisal
Global Crossing	North America	2004	2005	Ad Valorem Tax Appraisal
Global Crossing	New York Special Franchise Property	2003 & 2004	2005	Ad Valorem Tax Appraisal
Indianapolis Power & Light	IPL	2004	2005	Depreciation Study
<b>2004</b>				
Sprint Florida, Inc.	Florida	2003	2004	Ad Valorem Tax Appraisal
Verizon Communications	California	2003	2004	Ad Valorem Tax Appraisal
Verizon Communications	Northwest	2003	2004	Ad Valorem Tax Appraisal

**QUALIFICATIONS 8**

**Appraisal & Capital Recovery Activities Client List**

<u>Company</u>	<u>Property</u>	<u>Study Year</u>	<u>Year Performed</u>	<u>Activity</u>
Verizon Communications	New England	2003	2004	Ad Valorem Tax Appraisal
Sprint Communications, LP	North America	2003	2004	Ad Valorem Tax Appraisal
Level 3 Communications	North America	2003	2004	Ad Valorem Tax Appraisal
Global Crossing	North America	2003	2004	Ad Valorem Tax Appraisal
Sprint PCS	Cost Indexes	2003	2004	Ad Valorem Tax Appraisal
AT&T Communications	North America	2003	2004	Ad Valorem Tax Appraisal
AT&T Communications	California	2003	2004	Ad Valorem Tax Appraisal
Intermountain Gas Company	Idaho	2003	2004	Depreciation Study
<b>2003</b>				
Sprint Florida, Inc.	Florida	2002	2003	Ad Valorem Tax Appraisal
Verizon Communications	California	2002	2003	Ad Valorem Tax Appraisal
Verizon Communications	Northwest	2002	2003	Ad Valorem Tax Appraisal
Sprint Communications, LP	North America	2002	2003	Ad Valorem Tax Appraisal
Level 3 Communications	North America	2002	2003	Ad Valorem Tax Appraisal
Sprint PCS	Cost Indexes	2002	2003	Ad Valorem Tax Appraisal
AT&T Communications	North America	2002	2003	Ad Valorem Tax Appraisal
AT&T Communications	California	2002	2003	Ad Valorem Tax Appraisal
Global Crossing	North America	2002	2003	Ad Valorem Tax Appraisal
Verizon Wireless	Broward County, FL	1998 through 2002	2003	Ad Valorem Tax Appraisal
<b>2002</b>				
Sprint Florida, Inc.	Florida	2001	2002	Ad Valorem Tax Appraisal
Verizon Communications	California	2001	2002	Ad Valorem Tax Appraisal
Verizon Communications	Northwest	2001	2002	Ad Valorem Tax Appraisal
Sprint Communications, LP	North America	2001	2002	Ad Valorem Tax Appraisal
Level 3 Communications	North America	2001	2002	Ad Valorem Tax Appraisal
Global Crossing	North America	2001	2002	Ad Valorem Tax Appraisal
AT&T Wireless	Plymouth, MI	2001	2002	Ad Valorem Tax Appraisal
Sprint PCS	Cost Indexes	2001	2002	Ad Valorem Tax Appraisal
AT&T Communications	North America	2001	2002	Ad Valorem Tax Appraisal
Intermountain Gas Company	Idaho	2001	2002	Depreciation Study
AT&T Communications	California	2001	2002	Ad Valorem Tax Appraisal
<b>2001</b>				
Verizon	Verizon - New York	2001	2001-2	Functional Obsolescence & Useful Life studies for valuation
Sprint Florida, Inc.	Sprint Florida, Inc.	2000	2001	Ad Valorem Tax Appraisal
Verizon Communications	California	2000	2001	Ad Valorem Tax Appraisal
Sprint Communications, LP	North America	2000	2001	Ad Valorem Tax Appraisal
Global Crossing	North America	2000	2001	Ad Valorem Tax Appraisal
Sprint PCS	Cost Indexes	2000	2001	Ad Valorem Tax Appraisal
Sprint Corporation	Centel - Nevada	2000	2001-2	Depreciation Study
Alaska Communications System, Inc. (ACS)	ACS of Alaska	2000	2001	Depreciation Study
	ACS of Anchorage			
	ACS of Fairbanks			
	ACS of the Northland			
	ACS Holdings			
<b>2000</b>				



**Appraisal & Capital Recovery Activities Client List**

<u>Company</u>	<u>Property</u>	<u>Study Year</u>	<u>Year Performed</u>	<u>Activity</u>
Sprint PCS	BTS Equipment	2000	2000	Economic Life Study
Telus Communications	Telus - Alberta & British Columbia	2000	2000	Depreciation study Phase III Price Caps
Sprint Florida, Inc.	Florida	1999	2000	Ad Valorem Tax Appraisal
Verizon Communications	California	1999	2000	Ad Valorem Tax Appraisal
Sprint Communications, LP	North America	1999	2000	Ad Valorem Tax Appraisal
<b>1999</b>				
Sprint Corporation	Centel - Nevada	1998	1999	Depreciation Study
Intermountain Gas Company	Intermountain Gas Company	1998	1999	Depreciation Study
Sprint Florida, Inc.	Florida	1998	1999	Ad Valorem Tax Appraisal
Sprint Communications, LP	North America	1998	1999	Ad Valorem Tax Appraisal
<b>1998</b>				
Frontier Corporation	Frontier Telephone of Rochester	1998	1997	Valuation depreciation Lives and Net Salvage Parameters
Pacific Telecom, Inc.	Telephone Utilities of Washington	1997	1998	Depreciation Study
Sprint Florida, Inc.	Florida	1997	1998	Ad Valorem Tax Appraisal
Verizon Communications	Florida	1997	1998	Ad Valorem Tax Appraisal
Sprint Communications, LP	North America	1997	1998	Ad Valorem Tax Appraisal
Sprint Corporation	United Telephone Company of South Carolina	1998	1998	Depreciation Expense Universal Service Fund
Sprint Corporation	Carolina Telephone and Telegraph and Central Telephone of North Carolina	1998	1998	Depreciation Expense Universal Service Fund
Telus Communications	Telus - Edmonton (TCE)	1997	1998	Depreciation Study Phase II Price Caps
<b>1997</b>				
Sprint Corporation	Centel - Nevada	1997	1997	Unbundling/ Inter-connection Depreciation Study
Pacific Telecom, Inc.	Telephone Utilities of Oregon	1996	1997	Depreciation Study
Pacific Telecom, Inc.	Telephone Utilities of Alaska 1996 And the Northland		1997	Depreciation Study
Telus Communications	Telus - TCI formerly AGT	1996	1997	Depreciation Study Phase II Price Caps
Indianapolis Power & Light	IPL	1996	1997	Depreciation Study
Sprint Florida, Inc.	Florida	1996	1997	Ad Valorem Tax Appraisal
Verizon Communications	Florida	1996	1997	Ad Valorem Tax Appraisal

**QUALIFICATIONS 10**

## Appraisal &amp; Capital Recovery Activities Client List

<u>Company</u>	<u>Property</u>	<u>Study Year</u>	<u>Year Performed</u>	<u>Activity</u>
Pacific Telecom, Inc.	Eagle Telephone (Colorado)	1996	1997	Depreciation Study
<b>1996</b>				
Intermountain Gas Company	Intermountain Gas Company	1995	1996	Depreciation Study
Sprint Florida, Inc.	Florida	1995	1996	Ad Valorem Tax Appraisal
Century Telephone	Century Telephone of Ohio, Inc.	1995	1996	Depreciation Study
Telus Communications	AGT Limited (Alberta Government Telephones)	1995	1996	Depreciation Study
Johnson County Kansas Office of the Assessor	Useful Life of Computer Equipment	1995	1995	Useful/Market Life Analysis
Milwaukee Metropolitan Sewerage District	Milwaukee Metropolitan Sewerage District	1995	1996	Depreciation Study
Sprint Corporation	Long Distance Division	1995	1995	Depreciation/Recovery Status Study
Sprint Corporation	Cellular Division	1995	1995	Depreciation/Recovery Status Study
Pacific Telecom, Inc.	Alascom, Inc.	1994	1995	Depreciation Study
Pacific Telecom, Inc.	Telephone Utilities of the Northland	1993	1994	Depreciation Study
	Telephone Utilities of Alaska	1993	1994	Depreciation Study
Indiana Energy	Indiana Gas Company	1993	1994	Depreciation Study
Columbia Gas Transmission	Gas Pipeline Property in Sullivan County, NY	1993	1993	Useful Life Study
United Telephone - Midwest Group	United Telephone Company of Missouri	1993	1993	Modernization/ Depreciation Study
Intermountain Gas Co.	Intermountain Gas Co.	1992	1993	Depreciation Study
Pacific Telecom, Inc.	Alascom, Inc.	1992	1993	Depreciation Study
	Telephone Utilities of Oregon, Inc.	1991	1992	Depreciation Study
	Telephone Utilities of Washington, Inc.	1991	1992	Depreciation Study
Small Telephone Company Coalition	Oregon Small Telephone Companies	1991	1992	Depreciation Support
United Telephone Systems	United Telephone Co. of Pennsylvania	1991	1992	Instructional Depreciation Study

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## Appraisal &amp; Capital Recovery Activities Client List

<u>Company</u>	<u>Property</u>	<u>Study Year</u>	<u>Year Performed</u>	<u>Activity</u>
New York State Division of Equalization and Assessment	Electric, Gas, Water, Telephone, Pipeline, Steam, CATV	1991	1992	Useful Lives and Net Salvage Values
Rochester Telephone Company	Enterprise Telephone	1991	1992	Study Review
Indiana Energy	Indiana Gas/Richmond Gas/Terre Haute Gas	1990	1991	Depreciation Study
American Electric Power	Indiana/Michigan Power Co.	1990	1991	Depreciation Study
Rochester Telephone Company	Rochester Telephone Co.	1990	1991	Study Review
United Telephone Systems	United Telephone Co. of Florida	1990	1991	Instructional Depreciation Study
United Telephone Systems	United Telephone Co. of Oregon	1989	1990	Study Review
Telephone and Data Systems, Inc.	Quincy Telephone Company	1990	1991	Depreciation Study
Telephone and Data Systems, Inc.	Wolverine Telephone Company	1989	1990	Depreciation Study
Indiana Energy	Indiana Gas Company, Inc.	1989	1990	Depreciation Study
Intermountain Gas Co.	Intermountain Gas Co.	1989	1990	Remaining Life/Net Salvage Support
North-West Telephone Company	North-West Telephone Company	1989	1990	Study Review
United Telephone System	United of Texas	1989	1990	Instructional Depreciation Study
	United of Missouri	1989	1990	Instructional Depreciation Study
Milwaukee Water	Milwaukee Water	1989	1990	Depreciation Study
Indiana Natural Gas Corp.	Indiana Natural Gas Corp.	1989	1990	Depreciation Study
Pacific Telecom	Telephone Utilities of the Northland	1989	1990	Depreciation Study
	Telephone Utilities of Alaska	1989	1990	Depreciation Study

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**Appraisal & Capital Recovery Activities Client List**

<u>Company</u>	<u>Property</u>	<u>Year</u>	<u>Study Performed</u>	<u>Year</u>	<u>Activity</u>
	Alascom	1989		1990	Depreciation Study
	Telephone Utilities of Washington, Inc.	1988		1989	Depreciation Study
WICOR	Wisconsin Gas Company	1988		1989	Depreciation Study
ALLTEL	ALLTEL - Kentucky, Inc.	1987		1989	Depreciation Study
	ALLTEL - Ohio, Inc.	1988		1989	Depreciation Study
	Western Reserve Telephone Company	1988		1989	Depreciation Study
Milwaukee Metropolitan Sewer District	Milwaukee Metropolitan Sewer District	1988		1989	Depreciation Study
United Telephone	United of Ohio	1988		1989	ELG Support
Telephone Company	Telephone Company	1988		1989	ELG Support
United Telecom	U.S. Sprint	1988		1988	Useful Life Study
Pacific Telecom	Telephone Utilities of Oregon	1987		1988	Depreciation Study
	Telephone Utilities of Eastern Oregon	1987		1988	Depreciation Study
	Rose Valley Telephone Company	1987		1988	Depreciation Study
United Telephone	United of Minnesota	1987		1988	Capital Planning Support
Wisconsin Southern Gas	Wisconsin Southern Gas	1987		1988	Depreciation Study
Pacific Telecom	Glacier State Telephone Company	1986		1987	Depreciation Study
	Sitka Telephone Co.	1986		1987	Depreciation Study
	Juneau-Douglas Tel Company	1986		1987	Depreciation Study
Pacific Telecom	Telephone Utilities of Alaska	1986		1987	Depreciation Study
	Alascom	1986		1987	Depreciation Study
Lincoln	Lincoln Telephone and	1986		1987	Digital Switching

**Appraisal & Capital Recovery Activities Client List**

<u>Company</u>	<u>Property</u>	<u>Year</u>	<u>Study Performed</u>	<u>Year</u>	<u>Activity</u>
Telecommunications	Telegraph Company				Service Life
Northwest Natural Gas Corporation	Northwest Natural Gas Corporation	1985	1986		Depreciation Study
ALLTEL	Western Reserve Telephone Company	1984	1985		Depreciation Study
	ALLTEL - Ohio	1984	1985		Depreciation Study
	ALLTEL - Alabama	1984	1985		Depreciation Study
Gulf Telephone Co.	Gulf Telephone Company	1984	1985		Depreciation Study
United Telephone Systems, Inc.	United of Iowa	1984	1985		Depreciation Study
	United of Arkansas	1984	1985		Depreciation Study
Pacific Telecom	Telephone Utilities of Washington	1983	1984		Depreciation Study
	Telephone Utilities of Eastern Oregon	1983	1984		Depreciation Study
Pacific Telecom	Telephone Utilities of Oregon	1983	1984		Depreciation Study
	Northwestern Telephone Systems, Inc., Oregon	1983	1984		Depreciation Study
	Rose Valley Telephone Company	1983	1984		Depreciation Study
United Telecommunications	All United Telephone Companies	1983	1984		Capital Recovery Strategy
Lincoln Telecommunications	Lincoln Telephone & Telegraph Company	1983	1984		Depreciation Study
ALLTEL	ALLTEL - Mississippi	1982	1983		Depreciation Study
	ALLTEL - Michigan	1982	1983		Depreciation Study
North Carolina Natural Gas Corp.	North Carolina Natural Gas Corporation	1982	1983		Depreciation Study
Mid Continent Telephone (Currently ALLTEL)	Western Reserve Telephone	1982	1983		Depreciation Study
	Mid Ohio Telephone	1982	1982		Depreciation Study
	Florence Telephone Company	1980	1981		Depreciation Study

## Appraisal &amp; Capital Recovery Activities Client List

<u>Company</u>	<u>Property</u>	<u>Study Year</u>	<u>Year Performed</u>	<u>Activity</u>
Telephone Utilities (Currently Pacific Telecom)	Leeds Telephone Co.	1980	1981	Depreciation Study
	Elmore Coosa Tel Company	1980	1981	Depreciation Study
	Brookville Telephone Company	1980	1981	Depreciation Study
	Mid-Pennsylvania Telegraph	1980	1981	Depreciation Study
	Telephone Utilities of Oregon	1979	1980	Depreciation Study
	Telephone Utilities of Eastern Oregon	1979	1980	Depreciation Study
	Northwestern Telephone Systems, Inc.-Oregon	1979	1980	Depreciation Study
	Rose Valley Telephone Company	1979	1980	Depreciation Study
United Telephone Systems, Inc.	United of Ohio	1979	1980	Depreciation Study
Telephone Utilities	Telephone Utilities of Washington	1978	1979	Depreciation Study
United Telephone Systems, Inc.	United of Ohio	1978	1979	Depreciation Study
Rochester Telephone	Rochester Telephone (Indiana)	1977	1978	Depreciation Study
United Telephone Systems, Inc.	United of Ohio	1977	1978	Depreciation Study
Princeton Telephone	Princeton Telephone (Indiana)	1976	1977	Depreciation Study
Northwestern Telephone	Northwestern Telephone (Illinois)	1975	1976	Depreciation Study

**Papers and Seminars**

- 2011      Training Instructor Depreciation Basics Sessions A & B and Life and Salvage Analysis  
Society of Depreciation Professionals 25<sup>th</sup> Annual Meeting  
Atlanta, GA September 20-22, 2011
- 2010      Will the Real Cost Approach Please Stand Up?  
National Association of Property Tax Representatives Transportation, Energy, & Communications (NAPTR·TEC)  
Scottsdale, Arizona October 25-27, 2010
- Issues Affecting Assessment of Regulated Industries  
Institute for Professionals in Taxation (IPT) Property Tax Symposium  
Austin, Texas October 31 – November 3, 2010
- 2009      (Valuing) Intangibles  
Appraisal for Ad Valorem Taxation, Wichita State University  
Wichita, Kansas July 28, 2009
- Fair Value Accounting (Appraisal Panelist)  
Appraisal for Ad Valorem Taxation, Wichita State University  
Wichita, Kansas July 29, 2009
- 2008      Valuation Issues Valuation of Assets and the Impact of Depreciation  
Society of Depreciation Professionals Annual Meeting  
Greenville, SC September 21-26, 2008
- Obsolescence in the Long-Distance and Local Transport Networks  
Technology Futures Inc. Asset Valuation Conference  
Austin Texas February 8, 2008
- 2007      Communications Industry Issues  
National Association of Property Tax Representative – Transportation, Energy, & Communications  
New Orleans, LA October 30, 2007
- 2006      Appraisal Procedures & Issues in a Changing communications Industry  
Florida Chapter International Association of Assessing Officers' Tangible Personal Property Conference  
Ocala, Florida January 12, 2006
- Valuation of Intangibles  
Appraisal for Ad Valorem Taxation, Wichita State University  
Wichita, Kansas July 25, 2006
- SDP 20 years of History and Beyond  
Society of Depreciation Professionals 20<sup>th</sup> Annual Meeting  
Long Beach, CA September 18, 2006
- 2005      Valuation in a World with Asset Impairments  
Appraisal for Ad Valorem Taxation, Wichita State University  
Wichita, Kansas August 1, 2005

**Papers and Seminars**

- 2004      Depreciation in the Valuation of Assets  
Society of Depreciation Professionals' Eighteenth Annual Meeting  
Washington, D.C., September 13, 2004
- 2003      Cost Approach and the Use of Appraisal Guidelines  
Institute for Professionals in Taxation – Property Tax Symposium  
Fort Lauderdale, FL, September 17, 2003
- Cost Approach – Obsolescence and Depreciation  
Appraisal for Ad Valorem Taxation, Wichita State University  
Wichita, Kansas, July 28, 2003
- 2000      Appraisal Issues Associated with Technological Change in the Wireline Telecommunications Industry  
Appraisal for Ad Valorem Taxation, Wichita State University  
Wichita, Kansas, July 31, 2000
- The Impact of Advancing Technology and the Changing Regulatory Environment on Obsolescence  
Calculations for Ad Valorem Valuation Purposes  
Journal of Property Tax Management, Spring 2000
- 1996      How to Develop a Reproduction/Replacement Cost New Less Depreciation Approach to Value  
Appraisal for Ad Valorem Taxation, Wichita State University  
Wichita, Kansas, August 4, 1996
- 1995      Valuation Method, Techniques and Strategies (How to Quantify Stranded Investment) (Market, Income, & Cost Approach  
AGA Depreciation Committee Meeting  
Denver, Colorado, August 6-9, 1995, jointly presented with Earl Robinson of AUS Consultants
- 1994      Integrating Future Expectations for the Telephone Industry into Historical Depreciation Analysis  
United States Telephone Association (USTA's 1994 Capital Recovery Seminar)  
Scottsdale, Arizona, September 12-13, 1994
- 1994      Capital Recovery: United States versus Canada  
Canadian Telephone Industry's Annual Capital Recovery Seminar  
Edmonton, Alberta, Canada June 14-15, 1994
- 1990      Capital Recovery: Methods, Terminology, Procedures, and Record Keeping  
United States Telephone Association (USTA)'s  
1990 Non-FCC Subject and Small Company Capital Recovery Seminar  
Minneapolis, Minnesota April 10-11, 1990
- Integration of Technology Forecasting Into Historical Life Studies  
29th Iowa State Regulatory Conference  
Ames, Iowa May 15-17, 1990
- The 1990's and the Second Wave of Major Plant Retirements in the Communications Industry  
NARUC's Seventh Biennial Information Conference  
Columbus, Ohio September 12-14, 1990



**Papers and Seminars**

How Do We Incorporate Change into the Study Filing Procedures?  
USTA's 1990 Capital Recovery Seminar  
Chicago, Illinois October 16\_17, 1990

1989      Plant Modernization: Capital Planning and Capital Recovery  
Midwest Utilities Conference  
Chicago, Illinois September 11\_14, 1989

Price Indexes Today: Procedures, Uses, and Misuses  
Society of Depreciation Professionals' Third Annual Meeting  
New Orleans, Louisiana December 6\_7, 1989

1988      Plant Modernization: Capital Planning and Capital Recovery  
National Association of Regulatory Utility Commissioners (NARUC)'s  
Sixth Biennial Regulatory Information Conference  
Columbus, Ohio September 14\_16, 1988

**Papers and Seminars**

1997 Sprint Corporation - West Finance Center  
Overland Park, Kansas, August 1997

1997 Rochester Telephone Corporation  
Rochester, New York, April 1997

1996 Sprint-Florida-Vista United Telecommunications  
Altamonte Springs, Florida August 27-29, 1996

1994 Saskatchewan Telecommunications  
Regina, Saskatchewan, Canada, June 1994

1994 AUS Consultants/Leroy J. Murphy and Associates 1994 Capital Recovery Seminar  
May 1994

1993 Manitoba Telephone System, Winnipeg, Manitoba, December 1993

1993 Society of Depreciation Professionals Annual Meeting  
Charleston, South Carolina September 30, 1993

1993 SPRINT - Local Telephone Division  
Atlanta, Georgia August 11-12, 1993

1993 AUS Consultants/Leroy J. Murphy and Associates 1993 Capital Recovery Seminar  
Chicago, Illinois May 11 - 13, 1993

1993 Canadian Telephone Capital Recovery Seminar  
Halifax, Nova Scotia April 20 - 22, 1993

1993 United Telephone, Midwest Group  
Overland Park, Kansas January 20, 1993

1992 BellSouth Corporation  
Birmingham, Alabama November 23, 1992

1992 Sprint - Local Telephone Division  
Kansas City, Kansas November 18 - 20, 1992

1992 Society of Depreciation Professionals Annual Meeting  
San Antonio, Texas September 9 - 10, 1992

1992 AUS Consultants/Leroy J. Murphy and Associates 1992 Capital Recovery Seminar  
Chicago, Illinois October 6 - 8, 1992

1991 Society of Depreciation Professionals Annual Meeting  
Nashville, Tennessee November 20-22, 1991

1991 ALLTEL Corporation Microcomputer Depreciation Studies System Training  
Hudson, Ohio October 14-16, 1991

**Capital Recovery Training**

2016	Society of Depreciation Professionals Annual Training Charleston, South Carolina, September 18-23, 2016
2015	Society of Depreciation Professionals Annual Training Austin Texas September 2015
2014	Society of Depreciation Professionals Annual Training New Orleans, Louisiana September 2014
2013	Society of Depreciation Professionals Annual Training Salt Lake City, Utah September 2013
2012	Society of Depreciation Professionals Annual Training Minneapolis, Minnesota, September 16-18, 2012
1991	United Telecommunications, Inc., Capital Recovery/Microcomputer Depreciation Studies System Training Kansas City, Kansas September 23-25, 1991
1991	AUS Consultants/Leroy J. Murphy and Associates 1991 Capital Recovery Seminar Lake Geneva, Wisconsin September 17-19, 1991
1991	Rochester Telephone Corporation, Capital Recovery/Microcomputer Depreciation Studies System Training, Rochester, New York September 3-7, 1991
1991	Ameritech Services, Microcomputer Depreciation Studies System Training Chicago, Illinois May 16-17, 1991
1991	AUS Consultants/Leroy J. Murphy and Associates 1991 Capital Recovery Seminar Washington, D.C. April 9_11, 1991
1990	United Telecommunications, Inc., Capital Recovery Seminar Overland Park, Kansas December 1990
1990	AUS Consultants/Leroy J. Murphy and Associates 1990 Capital Recovery Seminar Chicago, Illinois September 24_27, 1990
1990	AUS Consultants/Leroy J. Murphy and Associates 1990 Capital Recovery Seminar Chicago, Illinois January 29-February 1, 1990
1990	United Telecommunications, Inc., Capital Recovery/Microcomputer Depreciation Studies System Training, Chicago, Illinois July 1990
1989	United Telecommunications, Inc., Capital Recovery/Microcomputer Depreciation Studies System Training, Chicago, Illinois July 1989

**Capital Recovery Training**

- 1989            AUS Consultants/Leroy J. Murphy and Associates 1989 Capital Recovery Seminar  
                 Chicago, Illinois March 6\_9, 1989
- 1988            AUS Consultants/Leroy J. Murphy and Associates 1988 Capital Recovery Seminar  
                 Chicago, Illinois July 25\_28, 1988
- 1988            United Telecommunications, Inc., Microcomputer Depreciation Studies System Training  
                 Kansas City, Kansas January 1988